What is claimed is:

1. A display device comprising phosphor particles having an average diameter selected to yield light emissions in a desirable portion of the electromagnetic spectrum following excitation and the phosphors particles having an average diameter less than about 100 nm.

2. The display device of claim 1 wherein the phosphor particles comprise a metal compound selected from the group consisting of ZnO, ZnS, TiO_2 and Y_2O_3.

3. The display device of claim 2 wherein the metal compound is ZnO.

4. The display device of claim 1 wherein the phosphor particles have an average diameter from about 5 nm to about 50 nm.

5. The display device of claim 1 wherein the phosphor particles have a diameter distribution such that at least about 95 percent of the particles have a diameter greater than about 60 percent of the average diameter and less than about 140 percent of the average diameter.

6. The display device of claim 1 wherein the light emission follows low velocity electron excitation.

7. A composition for application by photolithography comprising phosphor particles and a curable polymer, the phosphor particles having an average diameter and a distribution of diameters selected to yield light emissions in a selected portion of the electromagnetic spectrum following excitation and the phosphor particles having an average diameter less than about 100 nm.

8. The composition of claim 7 wherein the curable polymer is curable by UV radiation.

9. The composition of claim 7 wherein the curable polymer is curable by electron beam radiation.

10. The composition of claim 7 wherein the phosphor particles have an average diameter from about 5 nm to about 50 nm.

11. The composition of claim 7 wherein the phosphor particles comprise ZnO.

12. The composition of claim 7 wherein the light emissions follow low velocity electron excitation.

13. A method for producing zinc oxide particles comprising the step of pyrolyzing a molecular stream comprising a zinc precursor, an oxidizing agent and a radiation absorbing gas in a reaction chamber, where the pyrolysis is driven by heat absorbed from a laser beam.

14. The method of claim 13 wherein the zinc oxide particles have an average diameter less than about 150 nm.

15. The method of claim 13 wherein the zinc oxide particles have an average diameter from about 5 nm to about 50 nm.

16. The method of claim 13 wherein the laser beam is produced by a CO_2 laser.

17. The method of claim 13 wherein the zinc precursor is selected from the group consisting of $ZnCl_2$.

18. The method of claim 13 wherein the molecular stream is elongated in one dimension.

19. A method for producing zinc sulfide particles comprising the step of pyrolyzing a molecular stream comprising a zinc precursor, a sulfur source and a radiation absorbing gas in a reaction chamber, where the pyrolysis is driven by heat absorbed from a laser beam.

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